

IN THE CLAIMS

1. (Original) A method for recycling metal pickling baths, including the associated rinsing baths and air washers, having the following steps:
 - a) converting the free acids present in the liquid waste streams to be treated into the metal salt form before recycling,
 - b) separating water from the largely acid-free metal salt solution obtained in order to obtain a concentrated metal salt solution, and
 - c) supplying the concentrated metal salt solution to a thermal method to obtain metal oxides and free acids.
2. (Currently Amended) The method according to Claim 1, ~~characterized in that~~ wherein the acid waste streams from the pickling baths and the rinsing baths/air washers are each subjected to a separate treatment.
3. (Currently Amended) The method according to ~~Claim 1 or 2,~~ ~~characterized in that~~ Claim 1, wherein the separated water is returned into the method for reuse.

4. (Currently Amended) The method according to Claim 1,
~~characterized in that~~ wherein the waste stream from the pickling
baths to be recycled is separated in a suitable separating
system into a first partial stream having the metal salts to be
recycled and a second partial stream having free acids, which is
conducted back into the pickling bath.
5. (Currently Amended) The method according to Claim 4,
~~characterized in that~~ wherein the residues of free acids
existing in the first partial stream are converted into metal
salts according to step a) using metal hydroxides, oxides, or
carbonates of the metals used in the pickling bath.
6. (Currently Amended) The method according to Claim 5,
~~characterized in that~~ wherein the treated first partial stream
having metal salts is converted in a system for separating water
after step b) into a concentrated metal salt solution near the
solubility limit of the metal salts.
7. (Currently Amended) The method according to Claim 6,
~~characterized in that~~ wherein the water separated in step b) is
returned to the separating system as process water in the form
of a slightly acidic distillate.

8. (Currently Amended) The method according to ~~one of Claims 4 through 7, characterized in that~~ Claim 4, wherein the first partial stream is mixed before step a) with the acid waste stream from the rinsing baths/air washers.
9. (Currently Amended) The method according to Claim 6, ~~characterized in that~~ wherein the concentrated metal salt solution from the pickling baths and possibly the rinsing baths and air washers is supplied to a thermal method for decomposing the salts into metal oxides and free acids according to step c).
10. (Currently Amended) The method according to Claim 1, ~~characterized in that~~ wherein the rinsing water and/or the waste water of the rinsing baths/air washers are neutralized using a chemical, particularly sodium hydroxide solution or potassium hydroxide solution, through which the acid residues are left in dissolved form, but the metals are precipitated.
11. (Currently Amended) The method according to Claim 10, ~~characterized in that~~ wherein the precipitated and filtered metal salts are supplied to step a), particularly as metal hydroxides, for converting the free acid into metal salts.

12. (Currently Amended) The method according to Claim 10,
~~characterized in that~~ wherein the neutralized waste water is converted in a system for separating water into a concentrated salt solution near the solubility limit of the metal salt and the distillate generated is used again for rinsing purposes.
13. (Currently Amended) The method according to Claim 12,
~~characterized in that~~ wherein the concentrated salt solution is converted in a system for salt decomposition, particularly a cationic exchanger or electrodialysis system, into acids and bases for reuse in the process.
14. (Currently Amended) The method according to ~~at least one of the preceding claims, characterized in that~~ Claim 1, wherein a steel pickling bath is used as the metal pickling bath.
15. (Currently Amended) The method according to Claim 14,
~~characterized in that~~ wherein a stainless steel pickling bath is used as the steel pickling bath.
16. (Original) A device for recycling metal pickling baths (1), including the associated rinsing baths/air washers (4), which has:

- at least one system (5) for converting the free acids present in the liquid waste streams (2, 6) to be treated into the metal salt form before recycling,
 - at least one system for separating water (12, 27) from the metal salt solution obtained, which is as free of acids as possible, in order to obtain a concentrated metal salt solution, and
 - at least one system for thermal salt decomposition (3) of the salt concentrate streams from the pickling baths (1) and the washers/air washers (4) to obtain metal oxides and free acids.
17. (Currently Amended) The device according to Claim 16, ~~characterized by~~ comprising a separating system (13) for separating the waste stream to be recycled from the pickling baths (1) into a first partial stream (19) having the metal salts to be recycled and a second partial stream (18) having free acids, which is returned into the pickling bath (1).
18. (Currently Amended) The device according to Claim 17, ~~characterized in that~~ wherein the separating system (13) represents an acid regeneration system, particularly an acid retardation or diffusion dialysis system.

19. (Currently Amended) The device according to ~~one of Claims 16 through 18, characterized in that~~ Claim 16, wherein the system for thermal salt decomposition represents a roaster (3).
20. (Currently Amended) The device according to ~~one of Claims 16 through 19, characterized by~~ Claim 16, comprising lines to a concentrator (12, 27), particularly an evaporator, for the first partial stream (19) and/or the accumulated rinsing and exhaust air water (22, 26, 6a).
21. (Currently Amended) The device according to Claim 20, ~~characterized in that~~ wherein a reactor (5) is provided before the concentrator (12), in which the free acids present may be converted into metal salts by adding a reagent (11).
22. (Currently Amended) The device according to Claim 21, ~~characterized in that~~ wherein the reagent (11) represents a metal hydroxide of the metal which is also present in the pickling bath.
23. (Currently Amended) The device according to ~~at least one of the preceding claims, characterized in that~~ Claim 16, wherein a system (24) is provided in which the metals from the waste stream (6) of the rinsing baths/air washers (4) may be

precipitated and filtered off by adding a neutralization chemical, and the reagent (11) obtained may be supplied to the reactor (5).

24. (Currently Amended) The device according to ~~at least one of Claims 16 through 23, characterized in that~~ Claim 16, wherein the supply volume to the system for thermal salt decomposition (3) is set via the concentrator (12), in order to keep the volume stream (15) to the system (3) small.
25. (Currently Amended) The device according to ~~at least one of Claims 16 through 24, characterized in that~~ Claim 16, wherein a system for water separation (29), particularly an electrolysis system, is provided for the metal salt solution concentrated from rinsing and exhaust air water (26) in the concentrator (27).